



Controlled Emergency Distillation Shutdown

- **What determines a controlled emergency shutdown?**
 - **Lose of power or mechanical failure on any or all pieces of equipment**
- **Potential Hazards:**
 - Release of products in the system
 - Hot products flashing in the pipes
- **Precautions to take:**
 - Open valves slowly to prevent flashing and hammering which may cause damage to surrounding equipment
- **Safety systems in place:**
 - Pressure Relief valves in place
 - Alarms in place for high and low pressures and temperatures

1. Close TIC- 41105, Beer Column Feed Heater steam supply valve
2. Close TIC-41109, Beer Column Reboiler Steam supply valve
3. Close LIC-42131A, Vapor Valve to 1st Effect
4. Close UV-42149 Stripper Column Reboiler steam supply control valve
5. Reduce Beer Feed Rate to 400 GPM
6. Let Beer Run for 10 minutes or until bottom beer temp drops below 200 degrees
7. Divert Beer Bottoms back to the Beer Well
8. Put Process Condensate into the 1st effect to thin out the product by using the Low Pressure CIP pump and by opening the CIP supply valve into the 1st effect.
9. Stop PM-7710 Sulfuric Acid Pump#3
10. Stop PC-4201 Rectifier Pump
11. Close LV-42106 Rectifier level control valve
12. Stop PC-4202 Stripper Column Pump when level is at 50%
13. Close LV-42141 Stripper Column level control valve
14. Stop PC-4203 Rectifier Reflux pump, when level drops below set point.
15. Close FV-42139 Rectifier Column Flow valve
16. Stop PC-4401 Product pump when level gets to set point
17. Close TV-43106 Superheater steam supply
18. After 30 minutes Stop the molesieve sequence
19. Stop PC-4203 Regen Pump
20. Stop PC-4505 Evap Vacuum Eductor Pump



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21. Stop PC-4504 Evaporator

Condensate pump when it reaches set point

- 22. Stop PC-4507 1st effect forward pump
- 23. Close LV-45101 1st effect level control valve
- 24. Stop PC-4506 syrup transfer pump when solids drop off
- 25. Close FV-45151 syrup line flow valve